Environment and Culture of Early Man in Northwest India—a reappraisal*

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Abstract

Recent geo-archaeological investigations in parts of Kashmir valley and Himachal Pradesh show that there is no positive evidence for the existence of early man prior to Middle Pleistocene. The Stone age tools found in the area are dominated by choppers of Indian Lower Palaeolithic tradition.

The climate was warmer in the early Pleistocene than in the late Pleistocene. There is no convincing evidence of lowering of snow line below 2500 m during the whole of the Pleistocene.

Introduction

Recent researches in the Quaternary have clearly shown that it is no longer possible to equate the Quaternary alone with the glacial ages (Flint, 1971). There is ample evidence for the development of extensive glaciation in higher latitudes during the late Miocene. The beginning of late Cenozic glaciation seems to have some connection with the widespread orogeny experienced in many parts of the world. The mechanism by which ice sheets expanded and shrank repeatedly during the last 30 million years or so is not as yet known. As far as the Quaternary is concerned the recent trend is, therefore, to discard the usage of the popular terms Donau, Gunz, Mindel, Riss and Wurm in Quaternary glacial studies as the depositional record of the Alpine region has been found to be very complex. In fact, as many as 10 full scale glacial and interglacial cycles have been recognized in the last 800,000 years in higher latitudes of the northern hemisphere and each glacial and interglacial hemicycle was of varying intensity and duration (Butzer, 1976). It is against this recent knowledge of the Quaternary cold phases in higher latitudes, that the accepted fourfold glacial stratigraphy of Northwest India requires a critical re-examination.

Quaternary Environment

The Last decade's work in the sub-temperate parts of the Kashmir valley (Joshi *et al*, 1974) and in the sub-tropical zone of the sub-Himalayas including the Kangra (Joshi, 1970) and Markanda (Joshi *et al*, 1975) valleys of Himachal Pradesh has enabled us to modify some of the earlier ideas about the Quaternary chronology, environment and early man's culture in the area. Geomorphological, palaeontological and archaeological investigations have brought out the following important aspects of the Quaternary.

1. Study of mammalian fossil bones from the Lower Karewas of the Kashmir Valley and the Pinjor Formations of the sub-Himalayan Siwalik ranges (Badam, 1973) and the geomorphological evidence from this region (Joshi *et al*, 1975) suggest that this area was experiencing warm subtropical climate during the Lower/Early Pleistocene. In spite of congenial environment early Man did not occupy the sub-Himalayan foot hills in Early Pleistocene.
2. Major tectonic movements at the beginning of the mid-Pleistocene might

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have ushered strong glaciation in this region. During this cold phase glacio-fluvial deposits were laid down at places as low as 2300 m in the Liddar valley and thick coarser bouldery fans were deposited in area further south of the Kashmir valley (Joshi *et al*, 1974). The mid-Pleistocene severe cold climate caused warm-loving mammals to migrate further south towards central Narmada basin where climate was essentially monsoonic tropical. It is this unfavourable environment of NW India during the earlier part of the mid-Pleistocene that helps us to explain relatively meagre evidence of the Lower Palaeolithic industry on the highest terrace surface developed on boulder fanglomerate, popularly known as Boulder Conglomerate of mid-Pleistocene age.

3. The tilting and upheavel of the Boulder Conglomerate and the conspicuous development of fluvial terrace surfaces varying in height from about 100 to 15 m above the river bed in the area under study suggests strong tectonic movements during later Pleistocene. There is no direct evidence of glaciation in the sub-Himalayas below 2500 m during the later Pleistocene. The overall climate during this period was mainly semi-arid and the early man was definitely occupying the terrace surfaces (particularly well preserved terrace III) (Joshi, 1968) and the localized Dun valleys (Mohapatra, 1975).

Stone age Culture

In view of what has been stated above it would be much better if the Palaeolithic industries and their stratigraphy of the sub-Himalayan region of India are presently evaluated independently and not tagged with succession as worked out by De Terra and Paterson in the Soan valley (now) in Pakistan. The recent discoveries of handaxe and chopper industry from Pahalgam in the Kashmir basin which occur in association with the derived glacial boulder clay deposit have caused considerable interest in that region (Sankalia, 1971). Keeping aside the relative merits of the handaxe component of this industry which is extremely feeble and according to some scholars, rather questionable, the chopper and flakes definitely establish the evidence of early human habitations in that area.

The palaeoliths in Kangra valley occur on terraces and their provenance is yet uncertain as they are not found in the terrace deposit, although a larger collection has been obtained in the excavations at Dehra Gopipur (Mohapatra, 1966). Taking the collections made by different scholars at different times and places from the Banganga-Beas basin, it is quite clear that the palaeoliths from the region have choppers as the most dominant element. In these, interestingly, the unifacial choppers occur in large numbers and bifacially worked specimens are rare.

At the confluence of the Beas and Banganga, cleavers have been found in association with the choppers and all show distinct Acheulian techniques. Interestingly enough, no definite handaxe (biface) has yet been found in this area. The presence of unifacial choppers in large number is rather unique in this area. For generally in the Acheulian industries in India the choppers accompanying handaxes and cleavers are usually bifacially worked. This can be ascertained from the collections obtained either in the excavation or on the surface. Thus either this group is characteristic of high altitude sites or most of them are naturally flaked pebbles. It is interesting to note that most of the collections made at Guler on the Banganga came from the gulleys in the steeper slopes of the terraces. But one cannot ignore their occurrence even with the cleavers at low altitude—almost on the plains (Beas-Banganga confluence). Thus, this chopper group first reported in the Banganga

should be distinguished as a separate entity and designated as Guler industry. The availability of pebbles as the only raw material for making stone tools has greatly influenced this chopper dominant culture of the area.

The comparison between the Guler industry and Sohan industry cannot yet be based on any definite stratigraphic or typologic evidence. The Guler industry cannot be earlier than the later mid-Pleistocene as the tools have been collected from the terrace surface developed on the Boulder Conglomerate of mid-Pleistocene age.

While estimating the relative position of the Guler choppers vis-a-vis those of Sohan and other central Asian sites Kretzoi and Vertes (1965) have placed the Guler material in a stage later than that of Sohan and of course later than the Vertesszollos (Hungary) industries. This assessment fits in well with the above discussion on the age of the Guler industry.

The Middle Palaeolithic cultural levels are not yet well-defined in the sub-Himalayan region as the concerned artifacts have been obtained from the surface whose age is also not yet properly fixed. It is to be noted here that even these industries contain a fair amount of chopper element. The best example of this culture comes from the Markanda valley (Joshi *et al*, 1975) where a bifacially worked subtriangular point on quartzite flake was found along with small choppers on pebbles.

The latest stone-using cultures—Neolithic—are reported from Kangra valley and Nalagarh (Pinjor area). It is therefore, necessary to pursue the investigation to trace the occurrence of richer sites of Middle and Upper Palaeolithic periods as well as those of the Mesolithic. Otherwise, the answer for their rarity or absence will have to be looked for in the adverse ecologic aspects of the area during the respective periods.

Recently Verma (1975) has reported a rich fossil locality in the lower horizons of Pinjor Member containing numerous mammalian remains and closely associated human artefacts—like crude handaxes, choppers, scrapers, light duty flakes and other pebble tools. Those tools were collected from a site in the Kheri area, located *near* the lower part of Pinjor Member. This author also claims to have excavated some tools *in situ* from the sandstone/conglomerate bed and has illustrated some unifacial choppers. However, he has omitted the most important and standardized tool like handaxe which he had found. As has been stated above, the terraces in the Banganga are cut into the Siwalik beds of earlier age than the Boulder bed Formation and the choppers occur on the surfaces of the terraces. No tool has been obtained from the sandstone/conglomerate beds of the Siwalik Formations so far by various Quaternary geologists and prehistorians working in that area. In view of this, Verma's (1975) collection of Palaeolithic tools from the Pinjors will have a far reaching significance in pushing back the antiquity of man to the lower Pleistocene. This collection therefore, needs to be critically examined by an experienced prehistorian before this evidence is accepted. Some of the earlier collections made by Verma were examined by the authors at Saketi. None of them however appear to be a genuine chopper.

Thus the present evidence does not support the view that man existed in sub-Himalayas during the Lower Pleistocene. The earliest traces of man in the form of stone tools found in the fluvio-glacial conglomerate of the Liddar valley at Pahlgam, date to about early mid-Pleistocene (Joshi *et al*, 1974). The antiquity of early man in Siwalik region, in fact, does not go beyond late mid-Pleistocene and the prolific cultural development of early man seems to have taken place only during late Pleistocene.

Application of palaeomagnetic dating technique may provide a firm timescale for the Quaternary Stone Age cultures from NW India in future.

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